

**Testimony of**

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**before the**

**SUBCOMMITTEE ON SCIENCE, TECHNOLOGY AND SPACE**

**SENATE COMMITTEE ON COMMERCE**

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Thank you for the opportunity to address the subcommittee. I am here today to support the effort to establish the National Emergency Technology Guard or the NetGuard. Telecommunications infrastructure is vital to the success of the economy and the need for robust and redundant national communications infrastructure is more critical now than ever. The nation is well served by initiatives designed to preserve and protect our nation's telecommunications infrastructure -- the primary foundation of the economic successes of the past decade. NetGuard is one such initiative.

If we are to improve the way we mobilize the resources and experience of our nation's science and technology community for future emergency preparedness purposes, we must ask tough questions and expect honest, and not always comforting, answers.

The events of September 11 and other threats we now face expose surprising vulnerabilities in our underlying communications infrastructure. Few could have imagined a scenario wherein much of our telecommunications infrastructure in parts of lower Manhattan remains inoperable even three months after an incident.

In addressing how to marshal our collective resources and talents to protect against and respond to any future incident, we must analyze the strengths and weaknesses inherent in our telecommunications infrastructure and its ability to respond to future threats.

On September 11, we witnessed first hand the vulnerabilities of our network infrastructure. First, it is clear that we can no longer solely rely on historical monopoly telecommunication networks that in placing a premium on economic efficiency, concentrate network assets into a limited number of central offices. That model reflects a centralized, hierarchical infrastructure that is highly susceptible and vulnerable to attack. The Verizon central office at World Plaza was one of the largest in the world, serving as many lines from that one location as are served in the entire city of Cincinnati.

While deregulation over the past decade has fostered great progress in building a decentralized distributed network infrastructure -- the Internet is the prime example -- our legacy telecommunications networks still lag behind in transitioning away from its historically highly centralized architecture.

Multiple wireline and wireless competitive distributed networks that were deployed and operational in New York prior to September 11 were critical to public safety and the recovery efforts. Access to unencumbered available spectrum was another crucial element in restoring capacity lost in the September 11 attacks. We saw first hand the value provided by the facilities-based networks of competitive

local exchange and wireless carriers. These networks helped to fill the void created by the loss of some of the essential facilities of the incumbent provider. Fortunately, the FCC quickly granted wireless carriers special temporary authority to utilize 30 MHz of fallow spectrum assigned to NEXTWAVE to meet the overwhelming emergency need for wireless communications services.

The legacy of the monopoly era impacts not only our existing physical infrastructure but also our ability to respond to current disasters. In times of crisis under the old monopoly regime, the government could tap Ma Bell's nearly unlimited resources and talent pool from its affiliated and quasi-governmental entities, such as Bell Labs. Today, while the physical assets of Ma Bell's legacy network largely remain in place, its vast pool of human talent has been dispersed to many smaller unregulated competitors throughout the technology and telecommunications sector. As a result, technical expertise is no longer concentrated in a few monopoly companies but is instead spread throughout numerous entrepreneurial ventures.

The NetGuard could provide the necessary governmental framework to tap into that technical expertise, at the local level, and get it efficiently focused to assist in times of crisis. During the events of September 11, we witnessed numerous acts of heroism by dedicated people who, at the scene, shared their invaluable technical experience and sacrificed their time and energy to assist in the recovery efforts. One example is Bob Oliva, an XO Communications employee, who on his own initiative, worked on-site for over 60 straight hours, with little or no sleep, until telecommunications lines at the Mayor's office in New York were up and running. If an organization such as the NetGuard were in existence on September 11, local authorities could have organized and harnessed the talents of individuals--such as Bob Oliva--during the crisis in a more coordinated and expeditious fashion.

If created, NetGuard, as a federal entity, would be uniquely positioned to call upon the nation's technical and operational experts and be the clearinghouse for those who wish to support their country in times of need. Unfortunately, today, no federal body exists to facilitate such a critical function. Federally established multidisciplinary industry committees and councils, (e.g., the FCC's Network Reliability and Interoperability Council (NRIC) or the National Security Telecommunications Advisory Committee (NSTAC)), make a valuable contribution to the policy framework on emergency preparedness issues. Their primary function, however, is in an advisory capacity typically with narrow charter responsibilities and limited administrative capabilities.

The NetGuard would also be invaluable in providing expertise to prepare for future and unanticipated threats on the horizon. How would we respond, for example, in case of a mass population migration into rural areas resulting from the threat of biological attack on a major metropolitan city? It is unlikely that the existing rural infrastructure could provide the additional telecommunications capacity necessary to serve a sudden increase in the population base. The NetGuard could

bring to bear the expertise necessary to address the vexing issues associated with providing emergency bandwidth--wireless, wireline or satellite--in rural evacuation areas where citizens will need information and communications services to overcome geographical limitations.

Moreover, NetGuard could also play a crucial proactive role in providing expertise to ensure the development, deployment, and availability of redundant network capacity for end user access to multiple telecommunications networks. Redundant fiber and fixed wireless facilities have been deployed in the past decade. Many of these facilities, however, fall short in reaching existing end user customers, and thus will not be accessible during a crisis.

Just as Congress established government policies that resulted in the creation of multiple distributed networks that compose the Internet, it can promote similar incentives designed to ensure the development and deployment of multiple competitive distributed telecommunications networks that use a variety of technologies and service providers (e.g., broadband satellite, 3G, terrestrial wireless, broadband cable, and wireline).

The NetGuard, under Congressional mandate, could also promote public safety in areas such as public rights-of-way and building access. Such an entity could share its expertise to speed the development and deployment of these redundant and decentralized wireline and wireless networks and so that end user customers have multiple "last mile" access to the nation's telecommunications infrastructure.

Congress would be taking the right step in considering a NetGuard to protect our national communications lifeline. And with little additional effort, the NetGuard initiative can be enhanced to further bolster the emergency preparedness of our nation's telecommunications system. In addition to considering NetGuard, I recommend that Congress adopt the following measures:

- 1) ensure the availability and use of wireless networks capable of providing public safety functionality at any time and place irrespective of population density or geographic location within the United States;
- 2) create national emergency spectrum to be held in reserve specifically for public safety and emergency purposes;
- 3) develop building access legislation that would promote network access redundancy in government buildings and allow more than one "last mile" telecommunications provider at these locations throughout the country, as well as legislation designed to spur investment in broadband telecommunications networks, such as Senator Rockefeller's Broadband Tax Credit Bill;

- 4) promote the deployment of alternative redundant and distributed "last mile" wireline network facilities by strengthening the FCC's existing statutory authority to remove barriers to competitive entry in the public rights-of-way; and
- 5) establish a national emergency telecommunication priority access system to allow public health and safety users priority access on all of the nation's various telecommunications satellite, wireline, and wireless networks.